

REMARKS

This Amendment is in reply to the final Office Action mailed June 4, 2007 and is further to a Request for Continued Examination filed herewith.

Claims 1 – 48 are pending. Claims 13 – 20 and 22 – 48 are withdrawn from consideration. In accordance with the foregoing, claims 1, 2 and 21 are amended. Withdrawn claims 22, 24 39 and 45 are also amended herein so that the withdrawn claims will be in condition for rejoinder when a generic or linking claim is found to be allowable. No new matter is presented in this Amendment.

Allowability of claims directed to the elected species of Formulas (1) and (2)

Applicants appreciate the indication by the Examiner at page 2 of the Office Action that a non-aqueous electrolyte of a lithium secondary battery having an additive comprising a compound of Formulas (1) or (2) would be allowable. However, the Applicants respectfully submit that the full scope of amended claims 1 – 12 and 21 are allowable for the reasons presented herein.

Rejection of claims 1 – 6, 8 – 12 and 21 under 35 U.S.C. §102(b) over Maejima

At page 3 of the Office Action, claims 1 – 6, 8 – 12 and 21 were rejected under 35 U.S.C. §102(b) as being anticipated by Maejima (JP Patent 10-21958). The Examiner alleged that Maejima teaches a lithium secondary battery comprising a quinone as a non-electrolytic substance and teaches that the electrolyte comprises EC, DMC and LiPF₆ and other salts such as LiCl₄ or LiBF₄, and teaches that the positive electrode comprises LiMn₂O₄ or LiNiO₂. For the following reasons, this rejection is respectfully traversed and reconsideration is requested.

Independent claim 1 is amended herein to omit formulas (4) and (5) from the definition of the additive compound. This amendment has the effect to exclude naphthoquinone compounds described in Maejima from the genus of additive compounds. Further, claim 21 is amended to omit the specific naphthoquinone compounds. Maejima does not teach or suggest any electrolyte having an additive compound according to formulas (1) to (3) and (6). Therefore, the rejection should be withdrawn.

Rejection of claims 1 – 6, 8 – 12 and 21 under 35 U.S.C. §102(b) over Sakai

Also at page 3 of the Office Action, claims 1 – 6, 8 – 12 and 21 were rejected under 35 U.S.C. §102(b) as being anticipated by Sakai et al. (JP Patent 11-40194) (hereinafter, "Sakai"). The Examiner alleged that Sakai teaches a battery comprising an electrolyte containing a stabilizing agent selected from naphthoquinone, etc. and teaches that the electrolyte comprises LiPF₆ or LiBF₄ and comprises EC, DEC, DMC and EMC. For the following reasons, this rejection is respectfully traversed and reconsideration is requested.

Independent claim 1 is amended herein to omit formulas (4) and (5) from the definition of the additive compound. This amendment has the effect to exclude naphthoquinone compounds described in Sakai from the genus of additive compounds. Further, claim 21 is amended to omit the specific naphthoquinone compounds. Sakai does not teach or suggest any electrolyte having an additive compound according to formulas (1) to (3) and (6). Therefore, the rejection should be withdrawn.

Rejection of claim 7 under 35 U.S.C. §102(b) or §103(a) over Maejima or Sakai

Also at page 3 of the Office Action, claims 1 – 6, 8 – 12 and 21 were rejected under 35 U.S.C. §102(b) as being anticipated by or under 35 U.S.C. §103(a) as being obvious over Maejima or Sakai et al. The Examiner repeated the allegations regarding Maejima and Sakai as described above and alleged that the same electrolyte comprising a lithium salt, an organic solvent and a naphthoquinone additive would inherently form a passivation layer on the surface of the positive electrode. For the following reasons, this rejection is respectfully traversed and reconsideration is requested.

As noted above, neither Maejima nor Sakai teach or suggest any electrolyte having an additive compound according to formulas (1) to (3) and (6). Therefore, the rejection should be withdrawn.

CONCLUSION:

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 503333.

Respectfully submitted,

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